

1 1. A substantially pure polypeptide comprising an
2 amino acid sequence at least 60% identical to any one of SEQ
3 ID NOs: 1, 13, 21, 27, or 29, wherein the polypeptide
4 regulates transcription of a gene and comprises a
5 bromodomain.

1 2. The polypeptide of claim 1, wherein the amino
2 acid sequence is at least 70% identical to any one of SEQ ID
3 NOs: 1, 13, 21, 27, or 29.

1 3. The polypeptide of claim 1, wherein the amino
2 acid sequence is at least 80% identical to any one of SEQ ID
3 NOs: 1, 13, 21, 27, or 29.

1 4. The polypeptide of claim 1, wherein the amino
2 acid sequence is at least 90% identical to any one of SEQ ID
3 NOs: 1, 13, 21, 27 or 29.

1 5. A substantially pure polypeptide comprising any
2 one of SEQ ID NOs: 1, 13, 21, 27, or 29.

1 6. A substantially pure polypeptide comprising the
2 amino acid sequence of any one of SEQ ID NOs: 1, 13, 21, 27,
3 or 29, with up to 30 conservative amino acid substitutions,
4 wherein the polypeptide regulates transcription of a gene
5 and comprises a bromodomain.

1 7. A substantially pure polypeptide encoded by a
2 nucleic acid that hybridizes under high stringency
3 conditions to a probe the sequence of which consists of any
4 one of SEQ ID NOs: 2, 14, 22, 28, or 30, wherein the
5 polypeptide regulates transcription of a gene and comprises
6 a bromodomain.

1 8. An isolated nucleic acid encoding the
2 polypeptide of claim 1.

1 9. An isolated nucleic acid encoding the
2 polypeptide of claim 5.

1 10. An isolated nucleic acid encoding the
2 polypeptide of claim 6.

1 11. An isolated nucleic acid comprising a strand
2 that hybridizes under high stringency conditions to a single
3 stranded probe consisting of any one of SEQ ID NOS: 2, 14,
4 22, 28, or 30.

1 12. The isolated nucleic acid of claim 11, wherein
2 the nucleic acid encodes a polypeptide that regulates
3 transcription of a gene and comprises a bromodomain.

1 13. The nucleic acid of claim 12, wherein the
2 polypeptide comprises any one of SEQ ID NOS: 1, 13, 21, 27,
3 or 29.

1 14. The nucleic acid of claim 11, wherein the
2 strand is at least 15 nucleotides in length.

1 15. A vector comprising the nucleic acid of
2 claim 8.

1 16. A vector comprising the nucleic acid of
2 claim 9.

1 17. A vector comprising the nucleic acid of
2 claim 10.

1 18. A vector comprising the nucleic acid of
2 claim 11.

1 19. A vector comprising the nucleic acid of
2 claim 12.

1 20. A cultured host cell comprising the nucleic
2 acid of claim 8.

1 21. A cultured host cell comprising the nucleic
2 acid of claim 9.

1 22. A cultured host cell comprising the nucleic
2 acid of claim 10.

1 23. A cultured host cell comprising the nucleic
2 acid of claim 11.

1 24. A cultured host cell comprising the nucleic
2 acid of claim 12.

1 25. An antibody that specifically binds to the
2 polypeptide of claim 1.

1 26. A method of preparing a polypeptide, the method
2 comprising culturing the host cell of claim 20, wherein the
3 host cell expresses the polypeptide, and isolating the
4 polypeptide from the host cell.

1 27. A method of screening for a compound that binds
2 to a polypeptide, the method comprising
3 providing a polypeptide comprising an amino acid
4 sequence at least 60% identical to SEQ ID NO: 1;

5 contacting a test compound with the polypeptide; and
6 determining whether the test compound has bound to
7 the polypeptide.

1 28. A compound which specifically binds to the
2 polypeptide of claim 1.